

REMARKS / ARGUMENTS

Status of the Claims

Claims 2, 3, 6, 19 - 23 are pending in this matter. Claims 19 - 23 are withdrawn from consideration in response to the Examiner's restriction set forth in the Office Action of June 23, 2005.

Claim Rejections - 35 USC §102

At page 2 of the Office Action the Examiner maintains her rejection of claims 2 and 6 under 35 USC §102 (b) as being anticipated by Utterback (US patent No. 2,317,566) and, in paragraph 4 on page 3 of the Office Action, discounts Applicants' arguments that Utterback does not anticipate the instant invention because Utterback discloses an apparatus for spray coking rather than delayed coking. In support of this determination Examiner cites Gibson (US patent number 6,270,656) as disclosing a delayed coking unit with a spray source for oil. As to both points Applicants respectfully disagree and urge the Examiner to reconsider and withdraw the rejection of claims 2 and 6. In support, Applicants refer to and incorporate herein by reference all arguments previously presented in their Response and Amendment filed in this proceeding July 17, 2006. In further support of their contention that Utterback does not anticipate the instant invention and is not obvious in view of Gibson, Applicants state as follows:

1. The spray coking process disclosed in Utterback is a continuous process not a batch or semi continuous process as is the delayed coking process of the present invention.
2. As a continuous process the isolating valve (6) depicted and described in Utterback would remain open during the coking process that takes place in the coking chamber (3) to allow coke to fall into the coke receptacle (7) where coke is

accumulated and periodically removed. On this point Applicants note that the Examiner incorrectly states in paragraph 2, page 2 of the Office Action that the isolating valve (6) "is operated so that it is in a closed position during operation and in an open position at the end of operation to release the coke". The reverse is actually true. The isolating valve would remain open while coking takes place in the coking chamber to allow the coke particles to accumulate in the coke receptacle (7). (See Utterback at column 2, lines 48 -- 54). When the coke receptacle becomes full or nearly full the isolating valve would be closed to allow removal of the coke from the receptacle while the coking process continues in the upper chamber. On the contrary, in the instant invention the closure member (a valve) does not isolate two chambers to effect a continuous process and is opened only when the coking process is complete to allow removal of the accumulated coke from a single chambered delayed coking vessel.

3. The instant invention is directed to a process for repetitively producing and removing coke from a delayed coker vessel, whereas Utterback discloses nothing about the method or means for removing coke accumulated in the coke receptacle (7).

4. Utterback discloses a single, cylindrical spray coking apparatus comprising an upper chamber (3) and a lower chamber (7) that are separated by an isolating valve (6). Coking occurs in the upper chamber and coke is accumulated in the lower chamber during the coking process. Quite distinctly, Applicants' invention is directed to a method of delayed coking that occurs in a single chamber delayed coking vessel where both coking and Coke accumulation take place. These two aspects of coking are not isolated in separate chambers as an Utterback.

Regarding the Examiner's belief that delayed coking units can have a "spray source for oil" referencing Gibson (US patent No 6,270,656), Applicants respectfully

point out that the spray source for oil referenced by the Examiner is in fact a "spray down source of heavy gas oil for condensing hydrocarbon vapors entering the fractionator from the coker drum." [emphasis added.] In delayed coking operations a fractionator is an apparatus that is separate and apart from the delayed coking vessels. This is illustrated in figure 1, element 16 and in figures 2 and 3 as element 58. Spray down of heavy gas oil occurs at the spray down nozzles (22) in the bottom portion of the fractionator column (16) and not in the delayed coking vessels (26). In delayed coking operations this is a process that is employed in the fractionator column to quench or cool the very hot vapors received from the coking vessels to prevent further coking. For further explanation see Gibson at column 4, lines 23 through 37 and J.H. Gary and G.E. Handwerk, *Petroleum Refining Technology and Economics*, 2d Ed., (Marcel Dekker, New York, 1984), Chapter 5, Figure 5.1.

CONCLUSION

For the reasons stated above it is clear that Utterback does not disclose, teach or otherwise suggest each and every aspect of Applicants' invention as claimed in the Listing of Claims submitted herewith and therefore does not anticipate said invention. Similarly, Gibson does not suggest or teach, in any respect, spraying the feed to be coked into a delayed coking vessel and therefore does not render the instant invention obvious in view of Utterback. Accordingly, the pending claims as

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presented herein are now in condition for allowance and Applicants respectfully request withdrawal of all rejections and objections and timely allowance of such claims.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "S. R. Ellinwood", written over a horizontal line.

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